

THE EFFECTIVENESS OF USING GRAPHIC ORGANIZER TO INCREASE STUDENTS' VOCABULARY MASTERY

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Abstract

The objective of this research is to find out whether the application of graphic organizer can increase the vocabulary mastery of grade VIII students at SMPN 19 Palu or not. This research was intact design group that involved two groups; they were experimental group and control group. The research population was the grade VIII students at SMPN 19 Palu. The sample of this research were class VIII C as experimental class and VIII B as control class which consisted of 17 students for each. In collecting the data, the researcher used non-test (observation) and test (post-test). The data were analyzed descriptively and statistically. The results of data analysis showed that there was a significant difference between the achievement of experimental and control groups. In other word, the t-counted (22.16) is greater than t-table (2.120). In this case, the research hypothesis was accepted. Furthermore, the researcher concludes that graphic organizer can increase vocabulary mastery of grade VIII students at SMPN 19 Palu.

Keywords: Effectiveness, Vocabulary mastery, graphic organizer

INTRODUCTION

The teaching of English mainly involves two basic fields; language skill and language components. Language skills consist of listening, speaking, reading, and writing. Meanwhile, language components consist of grammar, pronunciation, spelling, and vocabulary. The teaching of language skills and language components has similar purpose in developing students' knowledge of English and the students are expected to be able to use English to communicate.

Vocabulary is one of the language components which must be mastered firstly by the students who want to learn or master English. By having or knowing sufficient stock of words, they can communicate well. It will be easier for students to understand reading material or passage and what the speaker says as well as to convey their ideas or thought in

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English. Lack of vocabularies will make students feel difficult to master English. In the teaching of English, the teacher has to teach vocabulary to the students properly.

Vocabulary mastery influences the students' ability in achieving their language skills. The students cannot transfer their ideas and information to other people if they have less number of vocabularies. The teaching of vocabulary to junior high school students is actually to build students' familiarity to English words and their meaning which valuable for the students to write English sentences. Therefore, they can use the words in their daily life as well as possible.

Vocabulary is important for students. The students can speak English if they have more stock of vocabulary. Therefore to write in English, the students also need vocabulary to arrange sentences. Beside that to understand the content of a simple reading text, the students need vocabulary as well and to listen to the precise word in English. Nunan (1999) argues vocabulary is more than list of target language words. As part of the language system, Vocabulary is intimated interrelated with grammar. Nunan further explains that it is possible to derive the lexical system of most languages into grammatical words such as prepositions, articles, adverbs and so on, and content words.

Based on the preliminary research, the researcher found that the eight grade students of SMP Negeri 19 Palu, faced some problems in learning vocabulary. They got difficulties in memorizing words, the students had difficulty to understand the meaning of English text given by the teacher because they do not have sufficient vocabulary, they were not able answer the questions from the text because they find it difficult to construct the answer based on their own words.

To overcome the problems, the researcher applied graphic organizer in teaching vocabulary. Kang (2004) defines a graphic organizer as a creative technique used to present complex information and convert it into a simple and meaningful graphic display of the relationships between concepts. According to Merkley and Jeffries (2001) states when implementing graphic organizer teachers can have students verbalize the relationship or links among concepts expressed by the visual to open the opportunity for student input. The teacher can then observe how students connect new information to past learning. Teachers can use this process to make reference to the upcoming text and seize opportunities to reinforce decoding and structural analysis of prior and present selection vocabulary. Meyen, Vergason, and Whelan (1996) states graphic organizers are visual displays teacher use to organize information in a manner that makes the information to

understand and learn. Based on the explanation by the experts above it means that graphic organizer can help students to access pieces information from the text given by the teacher.

The object of the research is the eight grade students of SMP Negeri 19 Palu. Based on the problem, the researcher formulated the research questions as follows “*Can the application of graphic organizer increase the vocabulary mastery of the eight grade students of SMPN 19 Palu?*” The objective of this research was to find out whether the application of graphic organizer can increase the vocabulary mastery of grade VIII students at SMPN 19 Palu.

METHODOLOGY

The researcher used intact group design with one class as an experimental group and one class as a control group. In this case, there were two classes given by the same test for post-test. In intact group design, there is no pre-test and the treatment is only given to the experimental group while the control group is not. The design of the research as recommended by Hatch & Farhady’s model (1982:21) as follows :

<u>G1</u>	<u>X</u>	<u>T1</u>
G2		T1

Where :

G1	: Experimental group	X	: Treatment
G2	: Control group	T1	: Post-test

Population is the group of people who has the same characteristics. Arikunto (2002:108) states, “The total number of individual subject in a research”. The Population is considered as a research subject. It is a group of people, things or events which are going to be investigated like Best (1981:8) states, “population is any group of individual that have one or more characteristics in common that are interest for the researcher”. It means that population is the object of the research that will be analyze by the writer.

The population of this research was the grade VIII students at SMP N 19 Palu. There are four parallel classes, they were VIIIA, VIII B, VIII C and VIII D. To make it clear, the number of the population can be seen in the following table:

Table 1
Class Distribution

No.	Class Name	Number of Students
1.	VIII A	17
2.	VIII B	17
3.	VII IC	17
4.	VIII D	17
Total		68

Sample is a small number of population that are select by researcher. Like Best (1981:8) explains , “ sample is a small proportion selected for observation and analysis”. In taking sample of this research, the researcher used a purposive sampling technique. She applied sampling technique because it is appropriate to the design of the research. Furthermore, the teacher of English at SMP Negeri 19 Palu recommended to conduct the research in those two classes because they still have problems in learning English vocabulary.

There were two variables: they were dependent variable and independent variable. Related to the title of this research, the effectiveness of using graphic organizer to increase vocabulary mastery of grade VIII students at SMPN 19 Palu. The dependent variable in this research was vocabulary of grade eight students at SMPN 19 Palu, while the independent variable graphic organizer.

In this research the data collected through observation and the test (post-test) as the research instrument. The data obtained from the observation are explained descriptively. The post-test are analyzed statistically. First, to count the individual score, the researcher used the formula stated by Purwanto (2008) as follow:

$$NP = \frac{R}{SM} \times 100$$

Where:

NP : students' score
R : score obtained
SM : maximum score of the test
100 : constant number

Second, to know the mean score of students, the researcher utilize the formula as proposed by Hatch and Farhady (1982:55) as follows:

$$X = \frac{\sum X}{N}$$

Where:

X : mean score

$\sum X$: total of the individual scores

N : total of students

Third, after getting the mean score, to calculate the deviation between students score in experimental class and students' score in control class, the researcher used the formula written by Hatch and Farhady (1982:55) as follows:

$$Md = \frac{\sum d}{N}$$

Where:

Md : the mean deviation

$\sum d$: the mean sum of deviation

N : the number of student

After that, the square deviation was computed by employing formula (Arikunto 2006:312) as follows:

$$\sum x^2 d = \sum d^2 - \frac{(\sum d^2)}{N}$$

Where:

$\sum x^2 d$: the square deviation

$\sum d$: the sum of deviation

N : the number of students

The last, for getting the value of t-counted, the researcher computed the formula as follows as shown written by Arikunto 2002:275

$$t = \frac{Md}{\sqrt{\left(\frac{\sum x^2 d}{N(N-1)} \right)}}$$

Where:

t : significant difference between pre-test and post- test

Md : mean score of deviation

$\sum x^2 d$: sum of square deviation

N : number of students

FINDINGS

The researcher conducted post-test after the treatment in order to find out whether or not the use of Graphic Organizer was effective in increasing students' vocabulary mastery. The post-test was given to the experimental and control group on 26th of October 2015. The results of the post-test are presented in Table 2 and 3.

It can be seen in Table 2, the highest score is 96.7 and the lowest score is 61.2. After calculating the students score in posttest, the researcher computed students mean scores of experimental group post-test after treatment as follows

$$X = \frac{\sum X}{N}$$

$$X = \frac{1334.4}{17}$$

$$X = 78.4$$

Table 2
The Students Score on Post-test in Experimental Class

No.	Experimental Class		
	Initials	Raw Score	Standard Score
1	AAZ	25	80.6
2	AMD	23	74.1
3	AR	21	67.7
4	AS	19	61.2
5	AYG	25	80.6
6	AW	23	74.1
7	DN	25	80.6
8	EWP	30	96.7
9	FA	25	80.6
10	FM	20	64.5
11	GA	25	80.6
12	JS	25	80.6
13	M	27	87
14	MAA	30	96.7
15	NM	27	87
16	RAZ	25	80.6
17	S	19	61.2
Total			1334.4
Mean score			78.4

By looking at the post-test result of the control group, it is obviously found that the highest score is 74.1 and the lowest score is 41.9. After calculating the post-test score of

the control group, the researcher computed the students' mean score. The mean computation is presented as follows:

$$X = \frac{\sum X}{N}$$

$$X = \frac{882.7}{17}$$

$$X = 51.9$$

Table 3
The Students Score on Post-test in Control Class

No.	Experimental Class		
	Initials	Raw Score	Standard Score
1	AMA	13	41.9
2	APU	14	45.1
3	AP	22	70.9
4	DS	18	58.0
5	F	15	48.3
6	FLB	14	45.1
7	IAS	15	48.3
8	LA	13	41.9
9	MA	14	45.1
10	MAD	17	54.8
11	MAF	15	48.3
12	MB	15	48.3
13	MM	23	74.1
14	NF	15	48.3
15	NT	15	48.3
16	RKA	17	54.8
17	SS	19	61.2
Total			882.7
Mean score			51.9

From the counted data above, it shows that the post-test mean score of the experimental and the control groups are different. The mean score of the experimental group is 78.4 while the control group is 51.9. It proves that the students' achievement of the experimental group after getting the treatment has greatly increased.

After calculating the mean score of students' posttest for both experimental class and control class, the researcher computed the deviation and square deviation of the students score between experimental class and control class. The result is presented in the following table:

Table 4
Deviation of Experimental Class and Control Class

No	Initial of experimental class	Post test of experimental class (G1)	Initial of control class	Post test of control class (G2)	Deviation (d) (G1- G2)	Square deviation (d2)
1	AAZ	25	AMA	13	12	144
2	AMD	23	APU	14	9	81
3	AR	21	MB	15	6	36
4	AS	19	FLB	14	5	25
5	AYG	25	F	15	10	100
6	AW	23	DS	18	5	25
7	DN	25	IAS	15	10	100
8	EWP	30	SS	19	11	121
9	FA	25	MA	14	11	121
10	FM	20	MAD	17	3	9
11	GA	25	MAF	15	10	100
12	JS	25	AP	22	3	9
13	M	27	MM	23	4	16
14	MAA	30	NF	15	15	225
15	NM	27	NT	15	12	144
16	RAZ	25	RKA	17	8	64
17	S	19	LA	13	6	36
Total					140	1356

After computing the deviation score between experimental group's posttest and control group's posttest, the researcher computed the mean deviation of the students score that presented as follows:

$$Md = \frac{\sum d}{N}$$

$$Md = \frac{140}{17}$$

$$Md = 8.2$$

After getting the mean deviation, the researcher computed the sum of square deviation shown as follows:

$$\sum x^2 d = \frac{\sum d^2 - (\sum d)^2}{N}$$

$$\sum x^2 d = \frac{1356 - (140)^2}{17}$$

$$\sum x^2 d = \frac{1356 - (19600)}{17}$$

$$\sum x^2 d = 1356 - 1152.9$$

$$\sum x^2 d = 203.1$$

To get the value of t-counted, the researcher computed the formula as shown below:

$$t = \frac{Md}{\sqrt{\frac{\sum d^2}{N(N-1)}}}$$

$$t = \frac{8.2}{\sqrt{\frac{203.1}{17(17-1)}}}$$

$$t = \frac{8.2}{\sqrt{0.74}}$$

$$t = \frac{7.2}{0.37}$$

$$t = 22.16$$

The result of the data analysis showed that the t-counted was 22.16 by applying 0,05 level significant with 16 degree of freedom (df) or $17-1 = 16$, the researcher found that t-counted (22.16) was greater than t-table (2.120). It could be concluded that the research hypothesis was accepted.

DISCUSSION

In this section, the researcher discusses about the finding of the research. The English teacher of SMP Negeri 19 Palu recommends that the researcher should conduct the research in those classes, namely VIII B as a control group and VIII C as an experimental group because they still have problems in learning English particularly in vocabulary. The

researcher did not used pretest, only posttest. In the process of treatment, the researcher used graphic organizer.

Graphic organizer is communication devices that show the organization or structure of concepts as well as relationship between concepts. It is a visual representation combining line, shape, space, and symbols to convey facts and concepts or to record information. The graphic displays which are designed to facilitate the teaching learning and textual material in the form of diagram that depict the relationships between fact, items, and ideas.

The researcher taught the kinds of vocabulary such as noun, verb, adjective include their meaning, and word use. During the treatment, the researcher used graphic organizer as a medium to improve the students achievement. In using the medium, the researcher gave the exercise to the students and asked them to identify the words in that exercise. After that the researcher asked them to make a simple sentence.

After conducting the treatment, the researcher gave the post-test to the students in the experimental class and the control class. The aim of posttest was to find out the improvement of students' in vocabulary after the treatment. The result of posttest showed that most of the students could get higher score than the students in control class. The mean score of post-test was 78.4 in experimental class the mean score of post-test in control class was 51.9. It showed that the mean score of the post-test in experimental class was higher than the post-test in control class. Graphic organizer is a great way to increase the students' vocabulary mastery, it provide templates or frames for students or teachers to identify pertinent facts, to organize information, and to record relationships between facts and ideas within a learning task that can improve the students' vocabulary mastery.

Hall & Sabey, (2007) states Teachers should improve vocabulary instruction and provide strategies to help students deal with the increase in new and difficult words. Teaching vocabulary by using graphic organizer will help students to comprehend information through visual representation of concepts, ideas, and relationships. The students will interested when learning English vocabulary because graphic organizer represent line and picture.

In related to this research, other researchers also proved that the use of graphic organizer can increase the students' English vocabulary mastery. The first research was conducted by Alfi (2013). The result of his research showed that the students' score were improved when conducting graphic organizer in the classroom. It is proved that the result of t-counted (6.52) is higher than t-table (2.00). He said that teaching vocabulary mastery

by using graphic organizer has significantly better result than using conventional method. Febriansyah (2014) discussed about how to improve students reading ability using graphic organizer by applying classroom action research. The students' achievement in pretest and posttest showed a significant improvement. The students' mean score in the cycle 1 was 69. Meanwhile in the cycle 2, the students mean score was they got excellent score 82. Both researches showed that graphic organizer was effective to improve students English vocabulary mastery

CONCLUSIONS AND SUGGESTIONS

Having discussed and analyzed the data in the previously, the researcher draws conclusions. First, the use of graphic organizer is effective to increase the vocabulary mastery of the eight grade students of SMPN 19 Palu. Second, the result of test indicates that vocabulary of the eight grade students of SMPN 19 Palu is good enough. It can be seen from the mean score of post test between experimental and control class'. The mean score of the posttest of experimental class' (78.4) was greater than the mean score of control class' post-test (51.9), it also was proved by t-counted value (22.16) which was greater than t-table (2.120), it showed that applying by graphic organizer as a medium in teaching learning process can effectively improve the students vocabulary.

Based on conclusion above the researcher would like to offer some suggestions to improve the teaching and learning process in English particularly in vocabulary. Firstly for the students they should increase their words in English vocabulary in order to make them understand in learning English materials. They must develop their bravery in order to answer the questions from the teacher and ask the teachers' instruction. Secondly for the teacher should motivate and encourage the students to be active in teaching learning process. Teacher should be creative to make the situation of class alive, in order to make the students enjoy in teaching learning process. Finally for the other researchers, the result of this research can be used as input by those who to conduct about teaching vocabulary as reference.

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